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Four new species and one new subspecies and new synonymy of the Geometridae (Lepidoptera) from Nepal

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Abstract *Hydrelia speciosa* sp. nov., *Sirinopteryx rosinaria tortuosa* subsp. nov., *S. nepalensis* sp. nov., *Alcis godavariensis* sp. nov. and *Ctenognophos zelotypus* sp. nov. are described. Genus *Stenoromia* Hampson, 1895, is sunk into *Sirinopteryx* Butler, 1883, and *Hypomecis plumulata* INOUE, 1987, is synonymized with *H. junctilinea* (Hampson, 1907), comb. nov.

Key words Lepidoptera, Geometridae, *Hydrelia*, *Sirinopteryx*, *Alcis*, *Hypomecis*, *Ctenognophos*, synonymy, Nepal, taxonomy.

All the type-specimens designated hereunder are in my private collection, excepting those in the National Science Museum, Tokyo. I express my hearty thanks to Mr T. Haruta, Tokyo, and Dr T. Yasuda, Osaka, for their gift of specimens.

Subfamily LARENTIINAE

Hydrelia speciosa sp. nov. (Fig. 1)

Male antennal ciliation about half length of width of shaft. Face very strongly protruded, covered with ochreous scales, crown whitish anteriorly, ochreous posteriorly. Thorax nearly concolorous with forewing, abdomen above dark ochreous, strongly mixed with white scales, 7th and 8th tergites more whitish, ventral side white.

Forewing vinaceous red, transverse lines tinged with dark grey, subterminal whitish fascia wavy, termen spotted with dark red, fringe white, mixed with vinaceous scales. Hindwing white, a faint discocellular dot, termen crenulate, tinged with dark red, trace of transverse lines at hindmarginal area, fringe a little whiter than on forewing. Under surface, forewing much paler than above, hindwing with discocellular dot enlarged. Length of forewing: ♂ ♀ 14-16 mm.

Male genitalia (Fig. 11). Costa gently rounded, outer margin of valva rounded, harpe not developed, margin of sacculus weakly rounded. Female genitalia (Fig. 12). Sclerotized plate of ductus bursae expanded cephalically, broader than in *H. microptera* Inoue, 1987, *Bull. Fac. domest. Sci. Otsuma Wom. Univ.* **23**: 231, figs 56H, 58D, 60D, from Nepal, a bunch of minute spines on corpus bursae at junction of ductus bursae, signum a mass of spines similar to *microptera*.

Holotype, ♂: Between Yangma & Nup, 3310 m, Tamur Valley, NE. Nepal, 25. vii. 1963 (T. Haruta *et al.*). Paratypes: data as holotype, 2 ♂, 1 ♀; Gunsar 3400 m, Tamur Valley, 21. vii. 1963, 1 ♀ (T. Haruta *et al.*); Walungchung Gola, 3310 m, Taplejung, NE. Nepal, 28. vi. 1962, 1 ♂ (T. Yasuda).

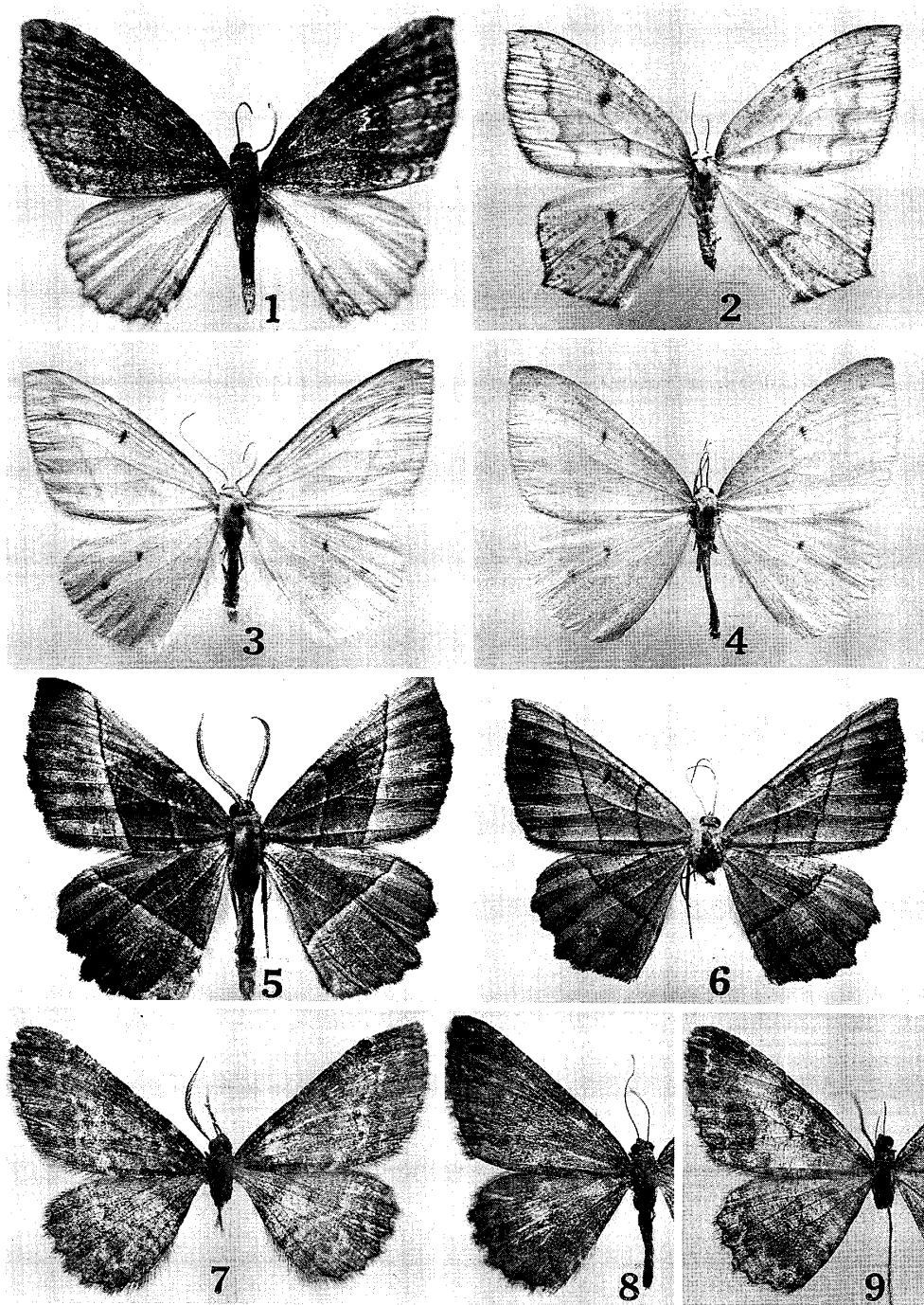


Fig. 1. *Hydrelia speciosa* sp. nov., holotype ♂. Fig. 2. *Sirinopteryx rosinaria tortuosa* subsp. nov., holotype ♀. Fig. 3. *Sirinopteryx nepalensis* sp. nov., holotype ♂. Fig. 4. *Ditto*, paratype ♂. Fig. 5. *Ctenognophos zelotypus* sp. nov., holotype ♂. Fig. 6. *Ditto*, paratype ♀. Fig. 7. *Alcis godavariensis* sp. nov., holotype ♂. Fig. 8. *Ditto*, paratype ♀. Fig. 9. *Ditto*, paratype ♀.

Subfamily ENNOMINAE

Sirinopteryx rosinaria tortuosa subsp. nov. (Fig. 2)

Paler, transverse lines and discocellular spots much clearer and heavier than in *S. rosinaria rosinaria* Oberthür, 1911, from West China, postmedian line of hindwing almost touching the cell-end, while in *r. rosinaria* it is far apart from it, spotting at the end of veins more complete on both wings, fringes much darker.

Holotype, ♀ : Banthani, 2620 m, Parbat Distr., Gandaki, C. Nepal, 16. x. 1981 (M. Owada), in coll. National Science Museum, Tokyo. Paratypes : data as holotype, 7 ♀ ; Deolari, Nr Hinku, 3200 m, Modi Khola, Parbat Distr., Gandaki, 20. x. 1981, 1 ♂ ; Changma, 2200 m, Ramechap, Janakpur, E. Nepal, 13. x. 1979, 1 ♀ (M. Owada). 6 paratypes in coll. Natn. Sci. Mus., and 3 paratypes in coll. Inoue.

Sirinopteryx nepalensis sp. nov. (Figs 3, 4)

Male. Most similar to *Sirinopteryx longipennis* (Warren), **comb. nov.**, but more thinly scaled. Ground colour of forewing sometimes lemon yellow, but often paler, costa ochreous, grey dotting sometimes strong but often very weak, postmedian fascia straight, not incurved near hindmargin, median fascia very weak or vanished. Both wings with discocellular spots clear. Hindwing white with yellowish hue, postmedian fascia represented by a series of spots in cellules, in some specimens only that in-between veins 4 and 5 is developed. Under surface more clearly marked, costa of forewing more thickly ochreous than on above. Length of forewing : 20-23 mm.

Male genitalia (Fig. 13). Almost identical with those of *longipennis*, but valva more elongate.

Holotype, ♂ : Chuchumara Dara, 3600 m, Jumla Distr., Karnali, W. Nepal, 27. ix. 1981 (M. Owada), in coll. Natn. Sci. Mus. Paratypes : Neurgar, 2800 m, Jumla Distr., 22. ix. 1981, 2 ♂ ; Bhulbhule, 3270 m, Jumla Distr., 23. ix. 1981, 2 ♂ ; data as holotype, 28 ♂ ; Jaljale, 3420 m, Jumla Distr., 30. ix. 1981, 1 ♂ (M. Owada). 10 paratypes in coll. Inoue, the others in coll. Natn. Sci. Mus.

Stenorumia Hampson, 1895, type-species *Rumia ablunata* Guenée, 1857, is only distinguished from *Sirinopteryx* Butler, 1883, type-species *Urapteryx rufivinctata* Walker, [1863], by rounded termen of hindwing. Since vestiture, venation, coloration and genitalia of both sexes are very similar in the species of both genera, being primordially identical, I will here treat the former genus a junior synonym of the latter (**syn. nov.**). *Sirinopteryx* is a close relative of *Ourapteryx* but distinguished from it by venation, strongly curved aedeagus and coiled, with a few exceptions, ductus bursae.

Alcis godavariensis sp. nov. (Figs. 7-9)

Male antenna strongly bipectinate to near terminal tenth joint, the longest rami about 8 times width of shaft, branching from one-third from apex of joints. Head, thorax, abdomen and wings above dark grey, usually both wings infuscated but rarely median area inside postmedian line whitish. Forewing with antemedian line usually obsolescent, angled in cell, then oblique inward, postmedian whitish line sinuous, incurved at vein 4, angled outward at vein 2, dark edge of the line dotted on veins, subterminal zigzag line, discocel-

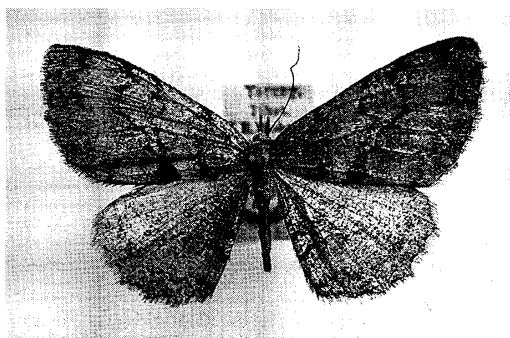


Fig. 10. *Hypomecis junctilinea* (Hampson), ♀.
Lectotype, here designated, of *Medasina junctilinea* Hampson.

lular dot or dash. Hindwing exhibits median fascia, a continuation of forewing, at near base, postmedian and subterminal nearly as on forewing, discocellulars darkened. Under surface pale yellowish white, forewing with outer third outside postmedian infuscated, but a quadrate ground colour in cellule 3, sometimes entire area of forewing infuscated. Length of forewing: ♂ ♀ 18-19 mm.

Male genitalia (Fig. 15). Uncus rather broad, apex rounded, gnathos with central process long, apex bluntly pointed, harpe with a round, tongue-like process directing dorsad and a flat bilobed plate directing outward, juxta a long stick-like process, apex deeply forked, cornutus a spine with a long thinly sclerotized basal half. Female genitalia (Fig. 18). Typical *Alcis*-form, signum a mass of short spines arranged like a band and another smaller one at cephalic part of corpus bursae (see also fig. 14).

Holotype, ♂, and paratypes, 3 ♀ : Godavari, near Kathmandu, 8-13. viii. 1979 (*ex* T. Haruta).

The degree of infuscation of wings seems to be variable, the holotype is moderate in coloration, but one of the paratypes is much paler and the other two are much darker, transverse lines inconspicuous excepting the postmedian line.

Hypomecis junctilinea (Hampson), **comb. nov.** (Fig. 10)

Medasina junctilinea Hampson, 1907, *J. Bombay nat. Hist. Soc.* **18** : 41.

Hypomecis plumulata Inoue, 1987, *Bull. Fac. domest. Sci. Otsu Wom. Univ.* **23** : 165, figs. 75E, 79A, B.
Syn. nov.

Hampson's original description was founded on three females from Tatung, S. Tibet. After examining Hampson's type-series at the British Museum (Natural History), London, I concluded that the Nepalese *plumulata*, 1 ♂ and 1 ♀, wingspan 42 mm, are smaller than Tibetan females, about 45 mm, but the two taxa are the same because the shape of wings, colour and maculation are almost indentical between them. The figured specimen will be designated as the lectotype and the other two the paralectotypes here.

Ctenognophos zelotypus sp. nov. (Figs. 5, 6)

Structurally identical with the type-species of the genus *C. eolaria* (Guenée, 1857). Both wings above brown; forewing paler at costal area inside of postmedian line, transverse lines dark brown, antemedian angled at dorsal margin of cell often incurved near hindmargin, postmedian straight, distally bordered with pale yellow, discocellular spot clear.

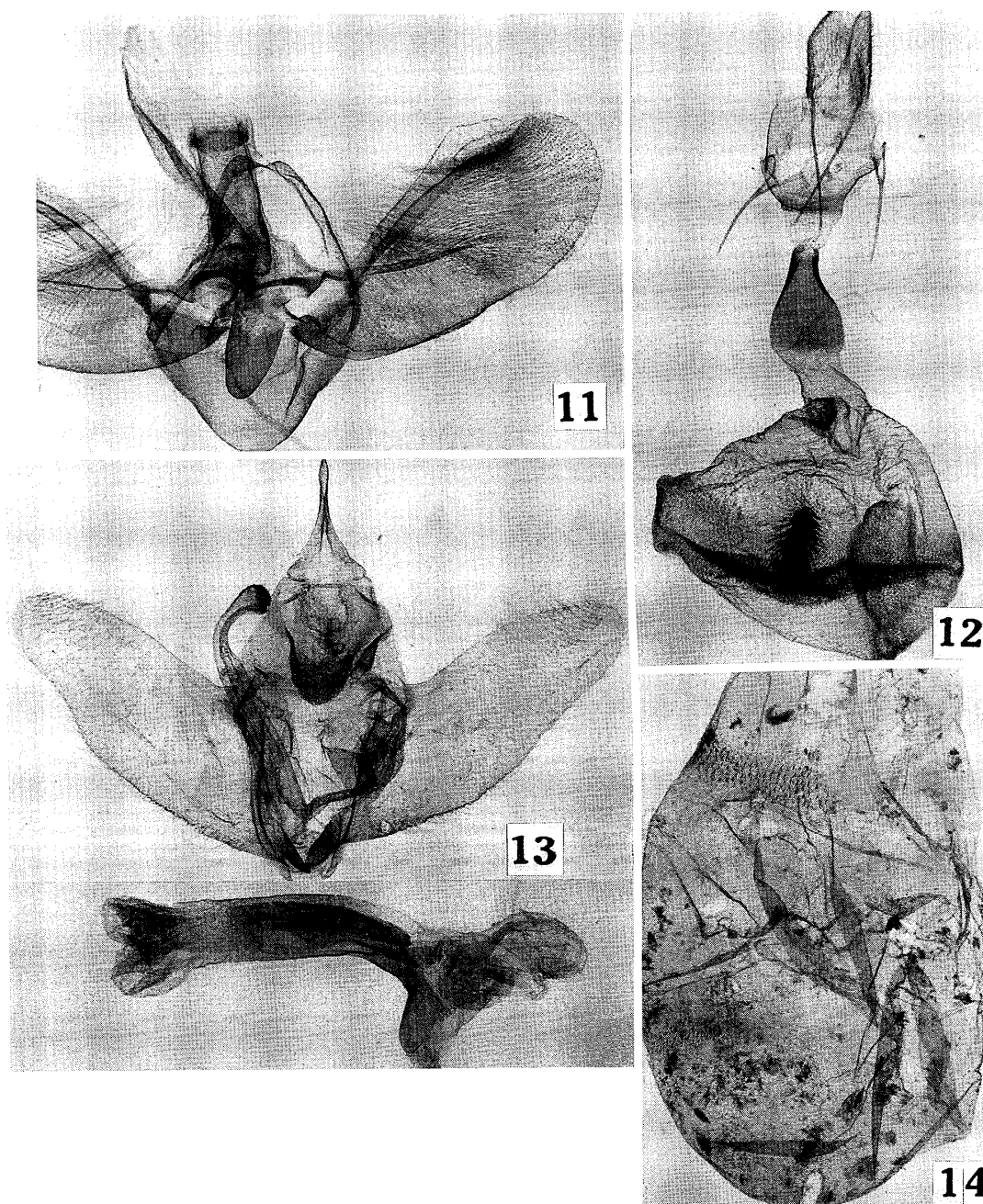


Fig. 11. *Hydrelia speciosa* sp. nov. Male genitalia (H. Inoue Slide 8881). Fig. 12. *Ditto*. Female genitalia (HI Slide 8882). Fig. 13. *Sirinopteryx nepalensis* sp. nov. Male genitalia (HI Slide 13308). Fig. 14. *Alcis godavariensis* sp. nov. Female genitalia : corpus bursae, greatly magnified (HI Slide 15099).

Hindwing with straight postmedian line, discocellular spot smaller, sometimes vanished. Under surface pale bluish brown, both wings with postmedian dotted lines, forewing with distal area darker, discocellular spots clearer than on above. Female much paler than male. Length of forewing : ♂ ♀ 21-23 mm.

In coloration it is similar to *C. grandinarius* (Motschulsky, [1861]) from Japan, Korea, SE.

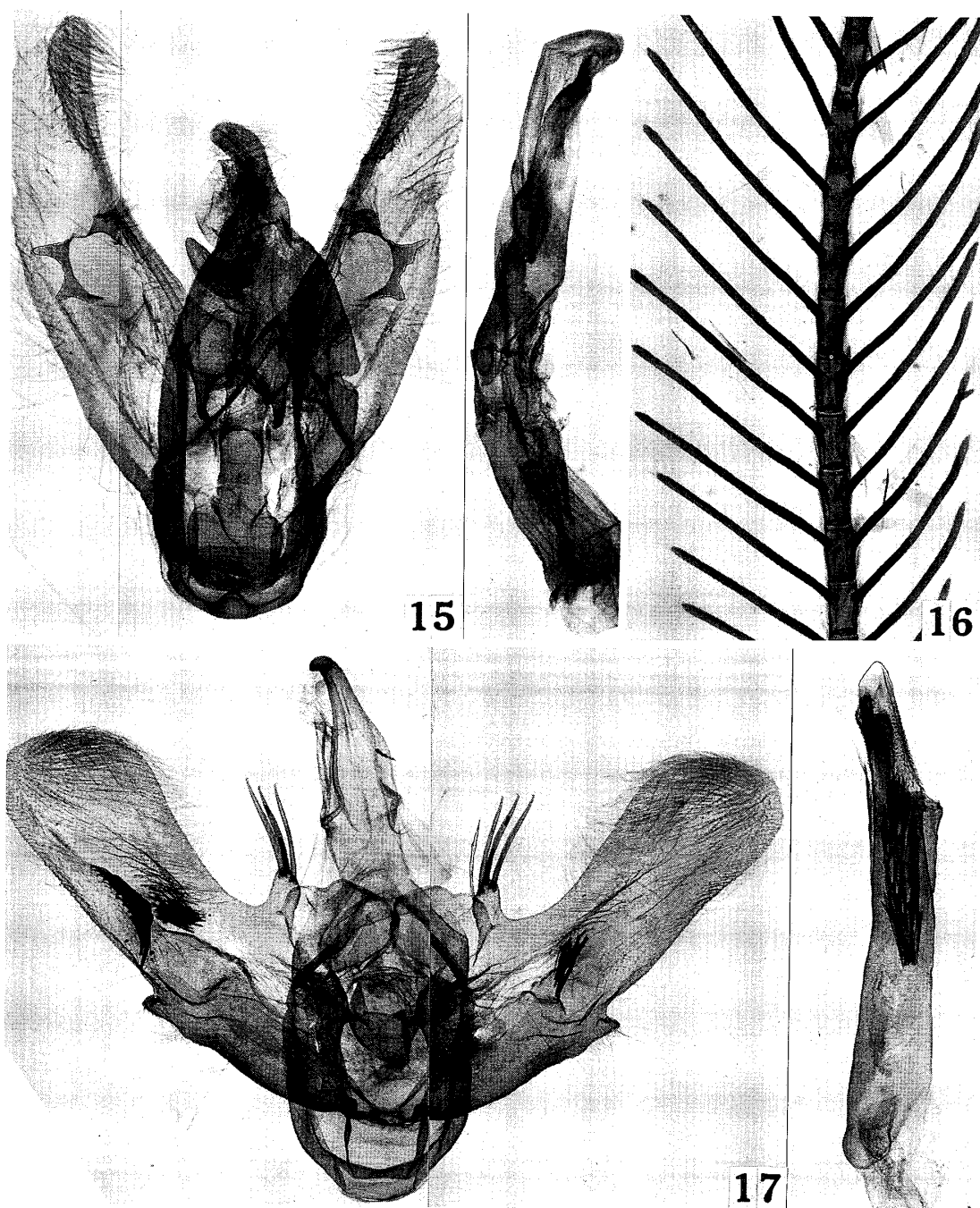


Fig. 15. *Alcis godavariensis* sp. nov. Male genitalia (HI Slide 15097). Fig. 16. *Ditto*. Male antenna, greatly magnified. Fig. 17. *Ctenognophos zelotypus* sp. nov. Male genitalia (HI Slide 14770).

Siberia and NE. China, but the wings darker, the postmedian line is nearly straight and forewing with antemedian line as clear as postmedian (*cf.* Inoue, 1982, *Moths of Japan*, 2, pl. 102: 5, 6), though the genitalia show it to be a close relative of the latter.

Male genitalia (Fig. 17). Almost identical with those of *eolaria*, but costal projection shorter. Female genitalia (Fig. 19). Ductus bursae much more slender, signum much

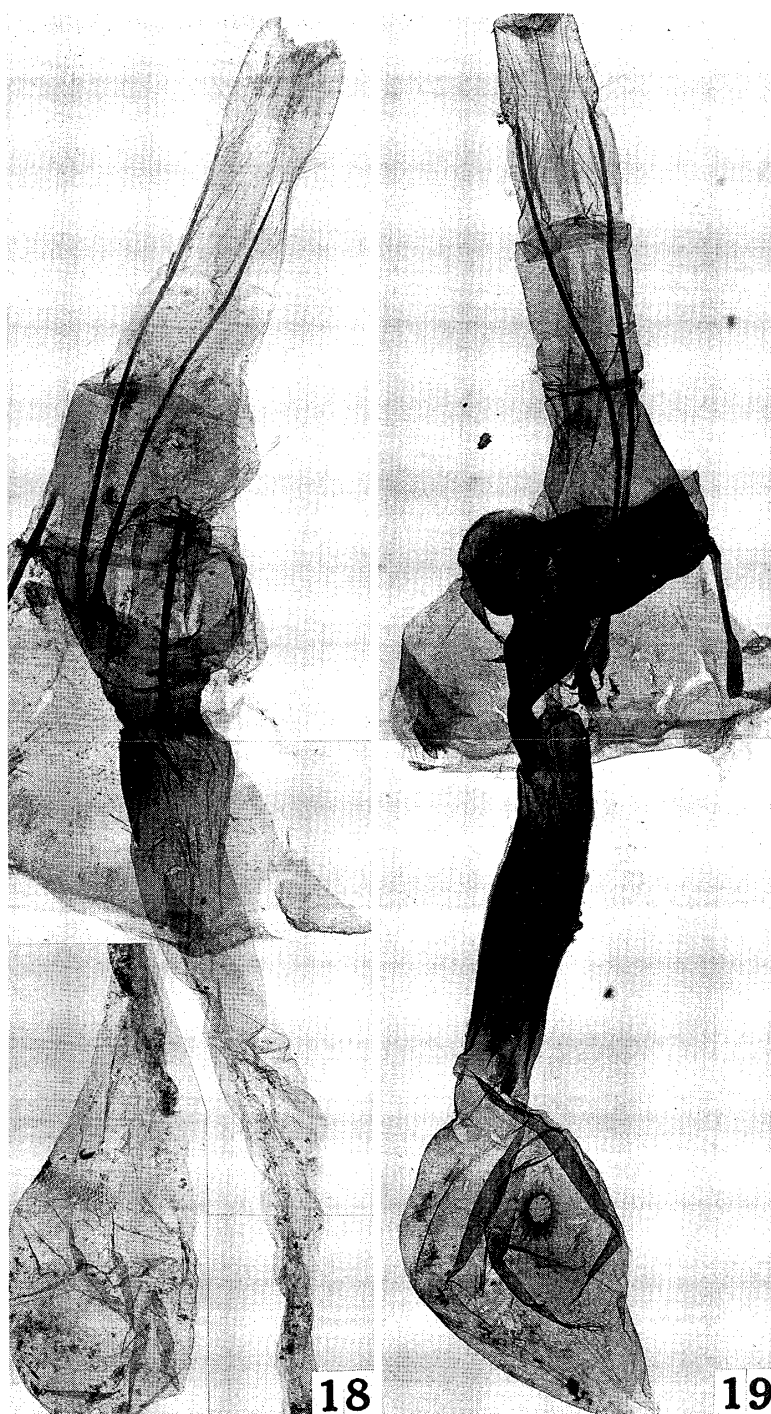


Fig. 18. *Alcis godavariensis* sp. nov. Female genitalia (HI Slide 15099). Fig. 19. *Ctenognophos zelotypus* sp. nov. Female genitalia (HI Slide 14771).

smaller than in *eolaria*.

Holotype, ♂ : Godavari, near Kathmandu, E. Nepal, 16. x. 1987 (*ex* T. Haruta). Paratypes : data as holotype, 2 ♂ ; Solukhumbu, Nangbug, 1550 m, Sagarmatha, E. Nepal, 5. x. 1979, 1 ♂, 1 ♀ ; Dolakha Jiri, 1860 m, Janakpur, E. Nepal, 15-16. x. 1979, 1 ♂ ; Kiumrung, 2250 m, Parbat, Gandaki, C. Nepal, 17. x. 1981, 2 ♂ (M. Owada). 3 paratypes in coll. Natn.

Sci. Mus. and the others in coll. Inoue.

摘 要

ネパールからシャクガ科の4新種と1新亜種の記載と新しいシノニム (井上 寛)

ネパールからシャクガ科の4新種と1新亜種を記載し, 属のシノニムと種のシノニムをそれぞれ整理した. *Ctenognophos grandinarius* (Motschulsky) ハガタキエダシャクに近縁な *C. zelotypus* Inoue のほかは, 日本産の種と近縁な種は含まれていない.

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